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Patent

Attorney Docket No. 1021269-000010



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Jong Jin Park et al.

Application No.: 10/786,592

Filing Date: February 26, 2004

Title: METHOD OF MAKING CARBON NANOTUBE PATTERNED FILM OR CARBON NANOTUBE

Group Art Unit: 1756

Examiner: DABORAH CHACKO DAVIS

Confirmation No.: 4344

AMENDMENT/REPLY TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is a reply for the above-identified patent application.

- ☐ A Petition for Extension of Time is also enclosed.
- ☐ Terminal Disclaimer(s) and the ☐ \$65.00 (2814) ☐ \$130.00 (1814) fee per Disclaimer due under 37 C.F.R. § 1.20(d) are also enclosed.
- ☐ Also enclosed is/are _____

- ☐ Small entity status is hereby claimed.
- ☐ Applicant(s) requests continued examination under 37 C.F.R. § 1.114 and enclose the ☐ \$395.00 (2801) ☐ \$790.00 (1801) fee due under 37 C.F.R. § 1.17(e).
- ☐ Applicant(s) requests that any previously unentered after final amendments not be entered. Continued examination is requested based on the enclosed documents identified above.
- ☐ Applicant(s) previously submitted _____

_____ on _____,
for which continued examination is requested.
- ☐ Applicant(s) requests suspension of action by the Office until at least _____, which does not exceed three months from the filing of this RCE, in accordance with 37 C.F.R. § 1.103(c). The required fee under 37 C.F.R. § 1.17(i) is enclosed.
- ☐ A Request for Entry and Consideration of Submission under 37 C.F.R. § 1.129(a) (1809/2809) is also enclosed.

- ☒ No additional claim fee is required.
- ☐ An additional claim fee is required, and is calculated as shown below.

AMENDED CLAIMS					
	No. of Claims	Highest No. of Claims Previously Paid For	Extra Claims	Rate	Additional Fee
Total Claims	16	MINUS 20 =	0	x \$50.00 (1202) =	\$ 0.00
Independent Claims	2	MINUS 3 =	0	x \$200.00 (1201) =	\$ 0.00
If Amendment adds multiple dependent claims, add \$360.00 (1203)					
Total Claim Amendment Fee					\$ 0.00
<input type="checkbox"/> Small Entity Status claimed - subtract 50% of Total Claim Amendment Fee					\$ 0.00
TOTAL ADDITIONAL CLAIM FEE DUE FOR THIS AMENDMENT					\$ 0.00

- ☐ A check in the amount of _____ is enclosed for the fee due.
- ☐ Charge _____ to Deposit Account No. 02-4800.
- ☐ Charge _____ to credit card. Form PTO-2038 is attached.

The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

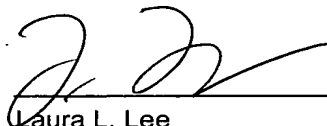
Respectfully submitted,

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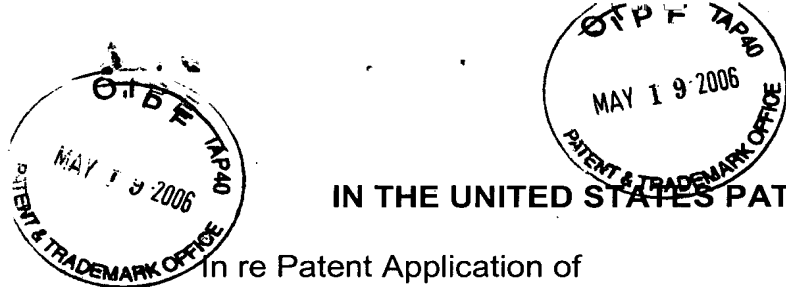
Date: May 19, 2006

By



Laura L. Lee

Registration No. 48,752



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)

Jon Jin PARK et al.)

Application No.: 10/786,592)

Filed: February 26, 2004)

For: METHOD OF MAKING CARBON)
NANOTUBE PATTERNED FILM OR)
CARBON NANOTUBE COMPOSITE)
USING CARBON NANOTUBES)
SURFACE-MODIFIED WITH)
POLYMERIZABLE MOIETIES)

Group Art Unit: 1756

Examiner: Daborah Chacko Davis

Confirmation No.: 4344

RESPONSE TO RESTRICTION REQUIREMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the Restriction Requirement dated April 19, 2006, Applicants elect Group I, claims 1-14, for examination at this time. However, for at least the reasons set forth below, Applicants request withdrawal of the Restriction Requirement and rejoinder and examination of claims 15-16 along with claims 1-14.

Applicants submit that the claimed carbon nanotube pattern formed by the method of claim 1 is a "negative pattern," which is recited in claim 15 is different from a carbon nanotube pattern formed by plasma etching as set forth in the Restriction Requirement page 2, which is a "positive pattern."

Applicants submit that forming of a carbon nanotube pattern using plasma etching is normally performed by a process which includes the steps of (a) growing carbon nanotubes from the carbon nanotube seeds by using CVD, (b) placing the mask of a desired pattern on the surfaces of the grown carbon nanotubes and (c)

cutting the surfaces of the carbon nanotubes by plasma etching. That is, plasma etching is a method that cuts the surfaces of the carbon nanotubes, except the part on which pattern mask is placed by plasma, which results in a positive pattern is formed.

On the other hand, the method of claim 1 forms a carbon nanotube pattern by a wet chemical process and an exposing process of the coating film comprising the carbon nanotubes to UV (please see the specification and claim 1). According to the method of claim 1, the part exposed to UV light stays remained, so that a negative pattern is formed.


Therefore, the product as claimed in claim 15 can not be made by the plasma etching process as stated on page 2 of the Office Action. Further, in case of the carbon nanotube composite, plasma etching is not in itself necessary. Therefore, Applicants request rejoinder.

In light of the foregoing, Applicants respectfully solicit issuance of a favorable action on the merits.

Respectfully submitted,

BUCHANAN INGERSOLL PC

Date: May 19, 2006

By: 

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